

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: ROBINSON POND	Lake Area (ha):	35.61
Town: HUDSON	Maximum depth (m):	9.0
County: Hillsborough	Mean depth (m):	3.3
River Basin: Merrimack	Volume (m ³):	1189000
Latitude: 42°48'00" N	Relative depth:	1.3
Longitude: 71°23'15" W	Shore configuration:	1.37
Elevation (ft): 211	Areal water load (m/yr):	4.44
Shore length (m): 2900	Flushing rate (yr ⁻¹):	1.30
Watershed area (ha): 336.7	P retention coeff.:	0.68
% watershed ponded: 0.0	Lake type:	natural w/dam

BIOLOGICAL:

6 January 1989

30 June 1988

DOM. PHYTOPLANKTON (% TOTAL) #1	RHIZOSOLENIA 55%	ASTERIONELLA 50%
#2	ASTERIONELLA 30%	OSCILLATORIA 25%
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		1540.0
CHLOROPHYLL-A (µg/L)		11.66
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 44%	KELLICOTTIA 35%
#2	NAUPLIUS LARVA 16%	KERATELLA 22%
#3		NAUPLIUS LARVA 18%
ROTIFERS/LITER	72	164
MICROCRUSTACEA/LITER	33	83
ZOOPLANKTON ABUNDANCE (#/L)	105	251
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		3.4
BOTTOM DISSOLVED OXYGEN (mg/L)	3.8	0.0
BACTERIA (fecal col., #/100 ml) #1		< 10
#2		< 10
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.5
Hypolimnion volume (m³): 18500

CHEMICAL:

Lake: ROBINSON POND

Town: HUDSON

	6 January 1989		30 June 1988		
DEPTH (m)	3.0	6.0	2.0	5.0	8.0
pH (units)	6.6	6.5	7.0	6.4	6.4
A.N.C. (Alkalinity)	10.5	10.4	9.1	9.7	13.1
NITRATE NITROGEN	< 0.05	0.06	< 0.05	0.05	0.05
TOTAL KJELDAHL NITROGEN	0.35	0.32	0.44	0.38	0.94
TOTAL PHOSPHORUS	0.025	0.029	0.014	0.010	0.050
CONDUCTIVITY (μ mhos/cm)	109.4	111.6			
APPARENT COLOR (cpu)	34	34	28	31	80
MAGNESIUM			1.00		
CALCIUM			5.5		
SODIUM			11.4		
POTASSIUM			1.20		
CHLORIDE	19	19	18		18
SULFATE	7	8	6		5
TN : TP	14	13	31	43	20
CALCITE SATURATION INDEX			2.6		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1988

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	2	3	2	11	Meso.

COMMENTS:

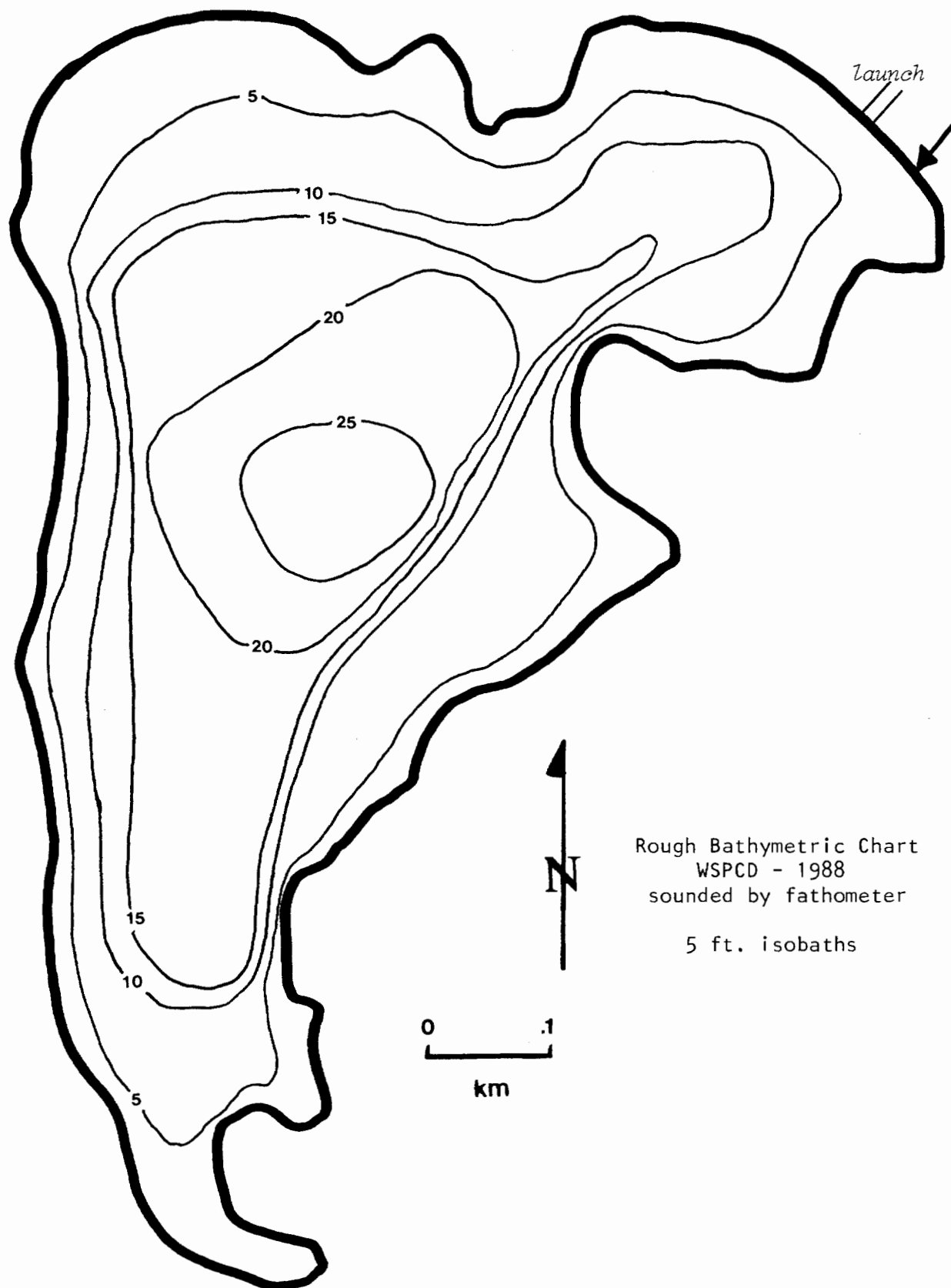
1. Pond receives heavy usage by day visitors; small speed boats, bass boats, and jet skis were observed, along with many bathers at the beach.

2. Cryptomonads (50%) and greens (30%) were the dominant whole-water phytoplankton classes. Dominant genera were Chroomonas (35%) and Cryptomonas (15%).

3. The pond was previously surveyed and classified in 1979. There was little change in water quality. The change in trophic classification was because the revised rating system gives less points for dissolved oxygen depletion in small hypolimnions.

ROBINSON POND

HUDSON



FIELD DATA SHEET

LAKE: ROBINSON POND	TOWN: HUDSON
DATE: 06/30/88	WEATHER: MOSTLY CLOUDY, COOL

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DATE: 06/30/88	WEATHER: MOSTLY CLOUDY, COOL

[illegible]

SECCHI DISK (m): 3.4 COMMENTS:

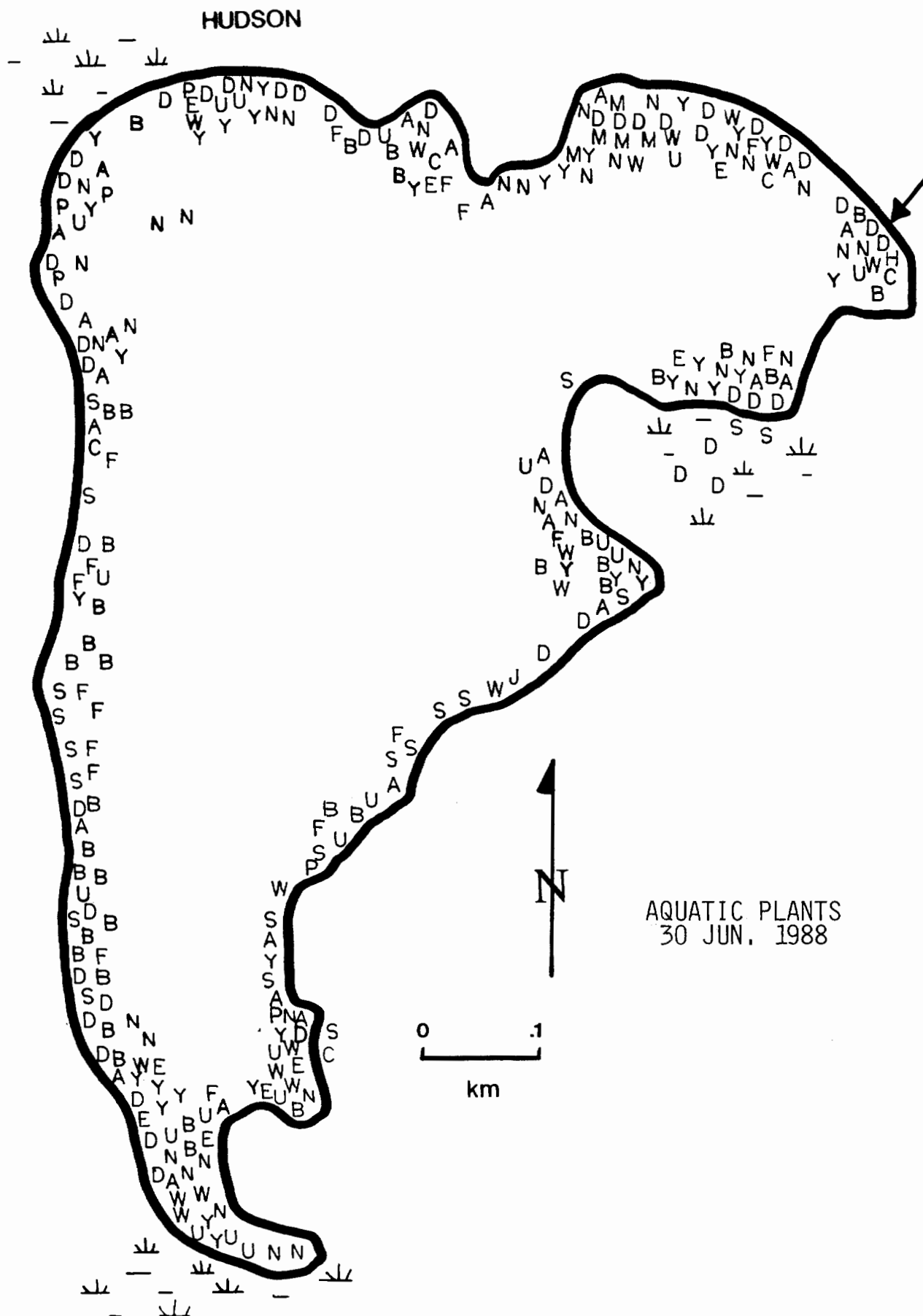
SECCHI DISK (m): 3.4 COMMENTS:

BOTTOM DEPTH (m): 9.0

TIME: 1200

*Dissolved oxygen values are in mg/L

ROBINSON POND



AQUATIC PLANT SURVEY

LAKE: ROBINSON POND

TOWN: HUDSON

DATE: 06/30/88

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
A	Peltandra virginica	Arrow arum	Common
N	Nymphaea	White water lily	Common
D	Decodon verticillatus	Swamp loosestrife	Common
S	Sparganium	Bur reed	Common
Y	Nuphar	Yellow water lily	Common
U	Utricularia	Bladderwort	Common
B	Brasenia schreberi	Water shield	Common
H	Hypericum	St. John's-wort	Sparse
W	Potamogeton	Pondweed	Common
F	Nymphoides cordatum	Floating heart	Common
E	Elodea nuttallii	Waterweed	Sparse
M	Myrica gale	Sweet gale	Sparse
P	Pontederia cordata	Pickerselweed	Sparse
J	Juncus	Rush	Sparse

OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS: